

Clean Version of the Specification

**AUTOMOTIVE HEADLINER HAVING IMPACT COUNTERMEASURES
AND METHOD FOR MAKING THE SAME**

Field of the Invention

[0001] The present invention pertains generally to automotive headliners and more particularly to countermeasure structures used to reduce the force of impact on a vehicle occupant.

Background of the Invention

[0002] It is known to provide automotive interiors with various active and passive occupant protection systems. An example of an active occupant protection system is the well-known inflatable air bag that is deployed upon impact. The air bag, however, does not completely protect the occupant as there are other areas of contact including the roof structure, door structures and interior consoles. Automotive interiors often provide passive protection systems in these areas. For example, it is known to provide resilient foam padding to protect vehicle occupants from contact with the underside of the roof of the vehicle during impact. Indeed, such protection measures are the subject of regulations and associated legislation so far as vehicle manufactures are concerned. In particular, the U.S. Federal Motor Vehicle Safety Standard 201 defines particular impact characteristics and requirements for automotive interiors.

[0003] An automotive headliner lines the underside region of the driver and passenger compartment roof which is in proximity to the heads of persons traveling in the vehicle. Automotive headliners are required to fulfill several functions. They need